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09/787,299	05/21/2001	Tadashi Takano	SIMTEK6241	8159

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EXAMINER

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 0403

Application Number: 09/787,299
Filing Date: May 21, 2001
Appellant(s): TAKANO, TADASHI

Kabushiki Kaisha Moric
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 23, 2002.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1 and 4 and claims 5 and 6 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

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5,723,933	Grundl et al.	3/1998
4,988,905	Tolmie, Jr.	1/1991
5,866,962	Kim	2/1999
2,469,099	Andrus	5/1949
5,258,680	Takahashi et al.	11/1993

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Grundl et al.

Regarding claim 1, Grundl et al. show a rotary electric apparatus (Figure 1) comprising a first element (50) having a permanent magnet (54), and a second element (30) with magnet wires (38) wound around cores (grooves 49, air cores), said first and said second elements being supported for relative rotation, said magnet wires (38) comprising plural enameled wires (39, column 16, line 4) twisted together (column 5, lines 1-20) to form a stranded cable (38, column 16, line 3) that is subsequently wound around said cores.

Regarding claim 4, it is noted that Grundl et al. also show outlet wires (Figure 2, ends of wires 39) constituted as stranded wires associated with the magnet wires.

Regarding claim 5, it is noted that Grundl et al. also show an insulating coating encircling the enameled wires and the strand thereof for further retaining the stranded wires in position after the winding (column 5, lines 49-55).

Regarding claim 6, it is noted that Grundl et al. also show the insulating coating comprising a plastic material (resin, column 5, line 52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grundl et al. in view of Tolmie, Jr.

Regarding claim 2, Grundl et al. show all of the limitations of the claimed invention including the first and said second elements placed within a casing (10, 11), the first element comprising a rotor (50) supported for rotation with said casing (10, 11), said second element comprising a stator (30) fixed to said casing. Grundl et al. do not show an encoder for acquiring control signals provided on the outside of said casing.

Tolmie, Jr. shows an encoder (36, Figure 2) for acquiring control signals provided on the outside of said casing (17) for the purpose of controlling the motor operation.

Since Grundl et al. and Tolmie, Jr. are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an encoder for acquiring control signals on the outside of said casing as taught by Tolmie, Jr. for the purpose discussed above.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grundl et al. in view of Kim.

Regarding claim 3, Grundl et al. show all of the limitations of the claimed invention including the first and said second elements placed within a casing (10, 11), the first element comprising a rotor (50) supported for rotation with said casing (10, 11), said second element comprising a stator (30) fixed to said casing. Grundl et al. do not show an encoder for acquiring control signals is provided on the inside of said casing.

Kim shows an encoder (100) for acquiring control signals is provided on the inside of said casing for the purpose of controlling the motor operation.

Since Grundl et al. and Kim are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an encoder for acquiring control signals on the inside of said casing as taught by Kim for the purpose discussed above.

Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrus in view of Takahashi et al.

Regarding claim 1, Andrus shows a rotary electric apparatus (Figure 7) comprising a first element (rotor not shown) and a second element (1) with magnet wires (3, 4) wound around cores, said first and said second elements being supported for relative rotation (column 1, line 4), said magnet wires (4) comprising plural enameled wires (6) twisted together to form a stranded cable that is subsequently wound around said cores (Figure 7).

Andrus does not show the first element having a permanent magnet.

For the purpose of making a permanent magnet rotor, Takahashi et al. show the first element (10, Figure 6) having a permanent magnet (11).

Since Andrus and Takahashi et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the rotor as a permanent magnet rotor as taught by Takahashi et al. for the purpose discussed above.

Regarding claim 4, it is noted that Andrus also shows outlet wires (4) constituted as stranded wires associated with the magnet wires.

Regarding claim 5, it is noted that Andrus also shows an insulating coating encircling the enameled wires and the strand thereof for further retaining the stranded wires in position after the winding (8).

Regarding claim 6, it is noted that Andrus also shows the insulating coating comprising a plastic material (column 2, line 38).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrus in view of Takahashi et al. as applied to claim 1 above, and further in view of Tolmie, Jr.

Regarding claim 2, the motor of Andrus modified by Takahashi et al. shows all of the limitations of the claimed invention including the first and said second elements placed within a casing (7), the first element comprising a rotor (10) supported for rotation with said casing (7), said second element comprising a stator (8) fixed to said casing except for an encoder for acquiring control signals provided on the outside of said casing.

Tolmie, Jr. shows an encoder (36, Figure 2) for acquiring control signals provided on the outside of said casing (17) for the purpose of controlling the motor operation.

Since Andrus, Takahashi et al. and Tolmie, Jr. are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an encoder for acquiring control signals on the outside of said casing as taught by Tolmie, Jr. for the purpose discussed above.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrus in view of Takahashi et al. as applied to claim 1 above, and further in view of Kim.

Regarding claim 3, the motor of Andrus modified by Takahashi et al. shows all of the limitations of the claimed invention including the first and said second elements placed within a casing (7), the first element comprising a rotor (10) supported for rotation with said casing (7), said second element comprising a stator (8) fixed to said

casing except for an encoder for acquiring control signals is provided on the inside of said casing.

Kim shows an encoder (100) for acquiring control signals is provided on the inside of said casing for the purpose of controlling the motor operation.

Since Andrus, Takahashi et al. and Kim are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide an encoder for acquiring control signals on the inside of said casing as taught by Kim for the purpose discussed above.

(11) Response to Argument

The examiner would respectfully like to present some well known facts in the art of motor and generator regarding windings before answering all arguments made by the Appellant. In the art of motor and generator, it has been known that the stator windings can be made with twisted bundles of small wires. Please see Grundl et al. listed above, column 4, lines 11-16. Inherently, the term "stranded cables" or "stranded wires" implies twisted bundles of wires.

The Merriam Webster's Collegiate Dictionary defines that "strand: fibers of filaments twisted, plaited or laid parallel to form a unit for further twisting or plaiting into yarn . . ." Therefore, "stranded wires" means parallel wires being twisted together.

Consequently, the stranded wires (6) of Andrus are not merely parallel strands. Instead, they are twisted strands of wires.

In addition, the stator can be made with iron poles or teeth called iron cores wound with wires or with bobbins, empty space, or grooves wound with wires called air cores. As a result, "cores" can be understood as iron cores or air cores. See Grundl et al. listed above, column 1, lines 53-55.

The examiner would also like to make a note that during examination, claims must be given their broadest reasonable interpretation and the pending claims in this application broadly recite "cores". Therefore, the term "cores" in claim 1 is understood in this art as either iron cores or air cores.

Moreover, even if "the Appellant's invention relates to a method of winding a coil upon core tooth elements", the claims are apparatus claims which must be distinguished from the prior art in terms of structure. In the claims, "core tooth elements" are not recited. The examiner does not agree with the Appellant that "the Grundl et al. reference . . . does not have the flexibility to permit winding around a core" and that "the rigid wires are bent into coil shape." In fact, the stator coils of Grundl et al. are not "rigid". They comprise "a number of thin filaments, being individual insulated, being arranged twisted within the strand" (see Abstract, lines 14-15), and are flexible because they can be "wound into a specific form" (see column 16, line 3).

Before the winding of Grundl et al. is made rigid, it is "a relatively flexible winding that can be easily wound around a core" which is an air space. As the examiner admitted in the rejection, the core of Grundl et al is not iron core with poles or teeth. Nevertheless, the language in instant claim 1 of the Appellant reads on the structure of

Grundl et al. because claim 1 does not particularly point out and distinctly claim the subject matter presented in the Brief.

The Appellant's invention is no more than twisted strands of wires around stator core. However, it is well known in the art of motor and generator that twisted strands of wires can be used for the purpose of increasing power density as discussed in Grundl et al.

Regarding Appellant's argument of claims 5 and 6, Grundl et al. clearly show the twisted strands of wires (39) being encircled with an insulating coating. Please, see Figure 2 and column 5, lines 50-55.

Regarding the Appellant's argument of claims 2 and 3, it is well known in the art of motor and generator to utilize and mount an encoder either inside or outside the motor housing for the purpose of controlling the motor operation. Please see Kim, Figure 3 and Tolmie, Jr., Figure 2. In addition, although Grundl et al. do not "teach anything about how electrical current is transmitted to or from the windings," it is well known in the art of motor and generator that mechanical energy can be converted into electrical energy and vice versa (i.e. making either a generator or a motor because a motor by definition converts one form of energy to another.) Therefore, it would have been obvious to one having ordinary skill in the art to make the machine of Grundl et al. as a motor as taught as Tolmie, Jr. or Kim.

Grundl et al. clearly teach a stator core made of twisted strands of wires. As discussed above, the winding of Andrus comprises twisted strands of wires (6). The Takahashi et al. reference is applied for showing the permanent magnet rotor (10) with

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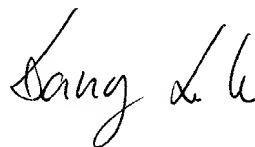
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magnets (11). The examiner does not rely on Takahashi et al. for twisted strands of wires and iron stator core.

Moreover, it is noted that references may be combined although none of them explicitly suggests combining one with the other within the meaning of 35 USC 103. In re Nilssen, 7 USPQ2d 1500 (Fed. Cir. 1989).


For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,



April 18, 2003

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